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SCREW COUPLE

1.

The invention belongs to the class of machine building, i.e. split screw-type fast rotating machine parts.

The known screw couple consists of the male screw and nut (female screw) with the parts meeting alongside helical cylinder surfaces.

In order to achieve a pre-tension in the radial direction the proposed screw couple is equipped with a lug of a variable (for example square) cross-section that fits into a corresponding wedge-shaped groove on the lateral helical surface of the nut.

In the drawing 1: the section of the proposed screw couple; the drawing 2 – detail 1; the drawing 3 has the trace of the wedge-shaped lug and the groove.

The nut 1 has a groove 2 of an optional cross-section on the outside radial lateral surface (of the diameter d), on each coil. The width of that groove changes along the length of the nut 1 in such a manner that forms a progressively narrowing coil gap. The lateral surface of the screw 3 conjoint with the nut 1 is equipped with the lug 4, of the profile corresponding to the groove of the nut.

The lug 4 of the screw is also of a variable thickness.

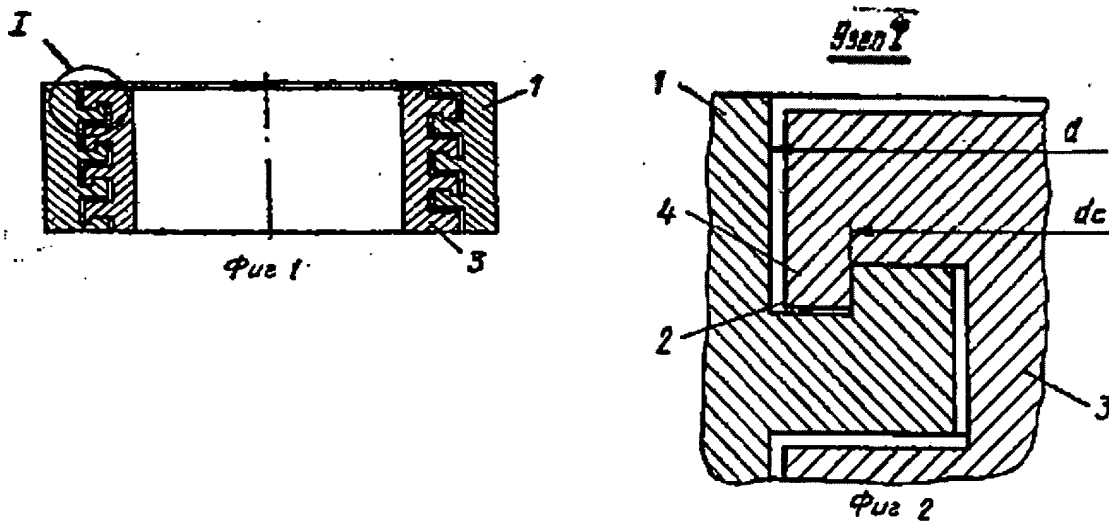
In the course of entering the screw 3 in the nut 1, the lug 4 of the screw enters the relevant groove 2 of the nut. Due to the fact that the width of the groove 2 of the nut and the lug 4 of the screw are continuously changing, having the cross-section of the form of a wedge, the screw 3 and the nut 1 are continuously tracking closer together along the surface of the changeable diameter d_c , with the body of the screw 3 being subjected to tension and the body of the nut 1 being subjected to compression. The forces of tension and compression are increasing as the screw 3 is entering the nut 1.

Subject of the Invention

The screw couple consisting of the screw and the nut meeting alongside coil cylinder surfaces, *with the difference* that in order to achieve a pre-tension in radial direction the lateral coil surface of the screw is equipped with the lug of a changeable (for example square) cross-section that fits into the corresponding wedge - like groove on the inner surface of the nut.

Drawing 1

Unit 1 Drawing 2



Drawing 3

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This is to certify that the attached English language document, identified as 371359, is a true and accurate translation of the original Russian language document to the best of our knowledge and belief.

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